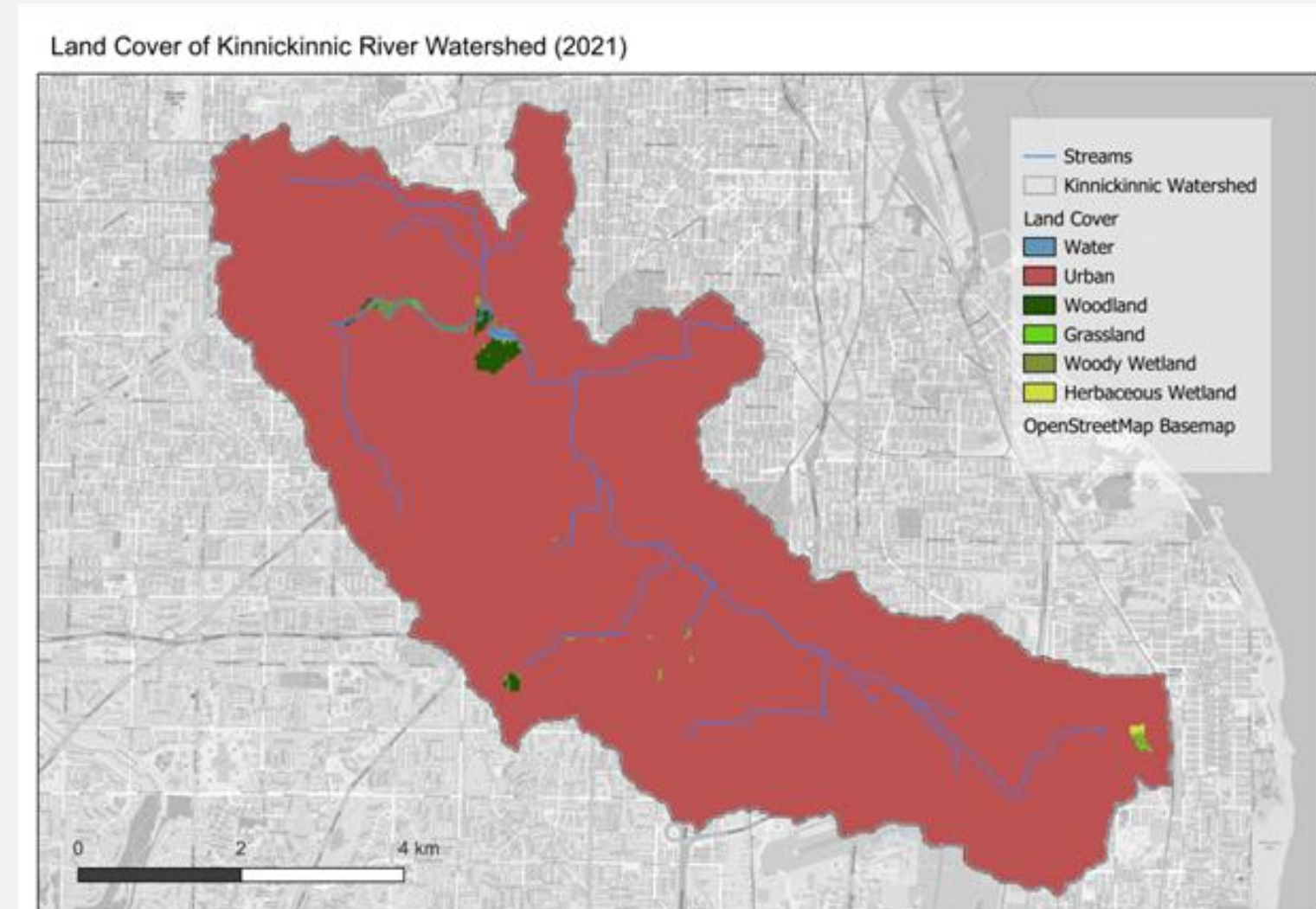


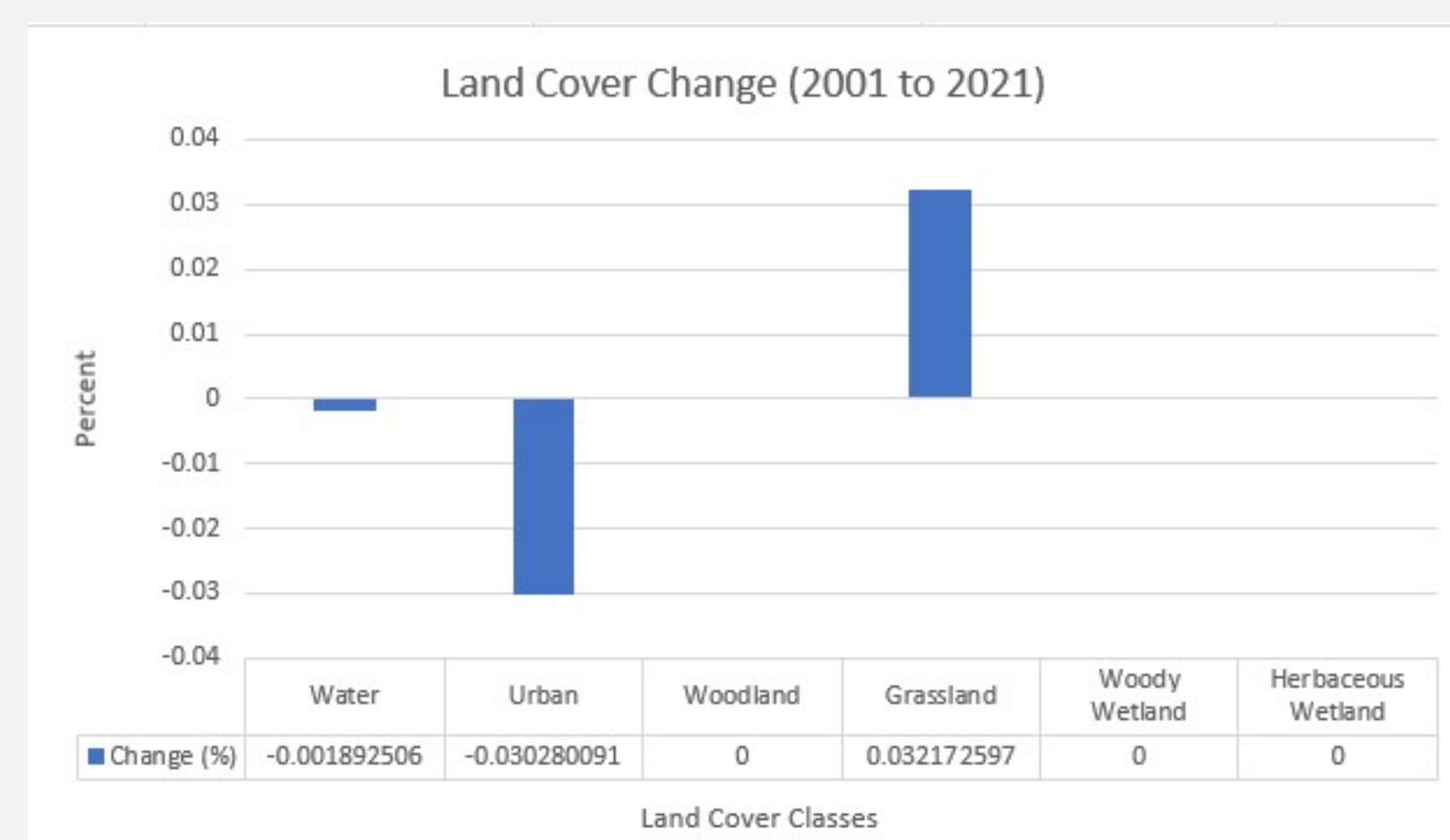
Drought Analysis for the Kinnickinnic Watershed

Christopher Archuleta (GEOG 716)

LAND COVER



This Kinnickinnic watershed was delineated using stream data and DEM data, using NWIS site number 04087159 as the outlet. It is mostly red, indicating a highly urbanized land cover. The chart below shows any changes from 2001 to 2021 were on order of hundredths of %.

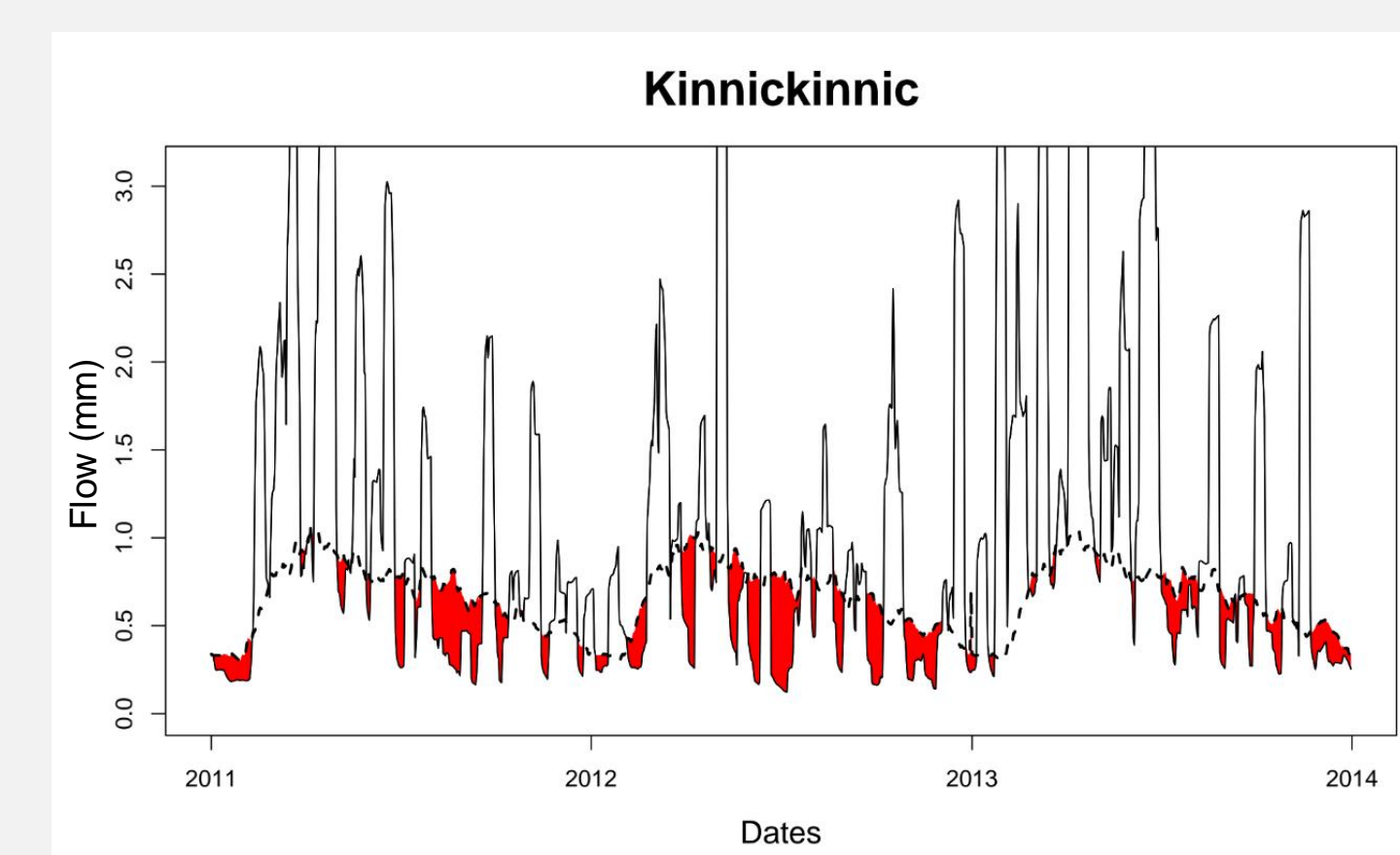
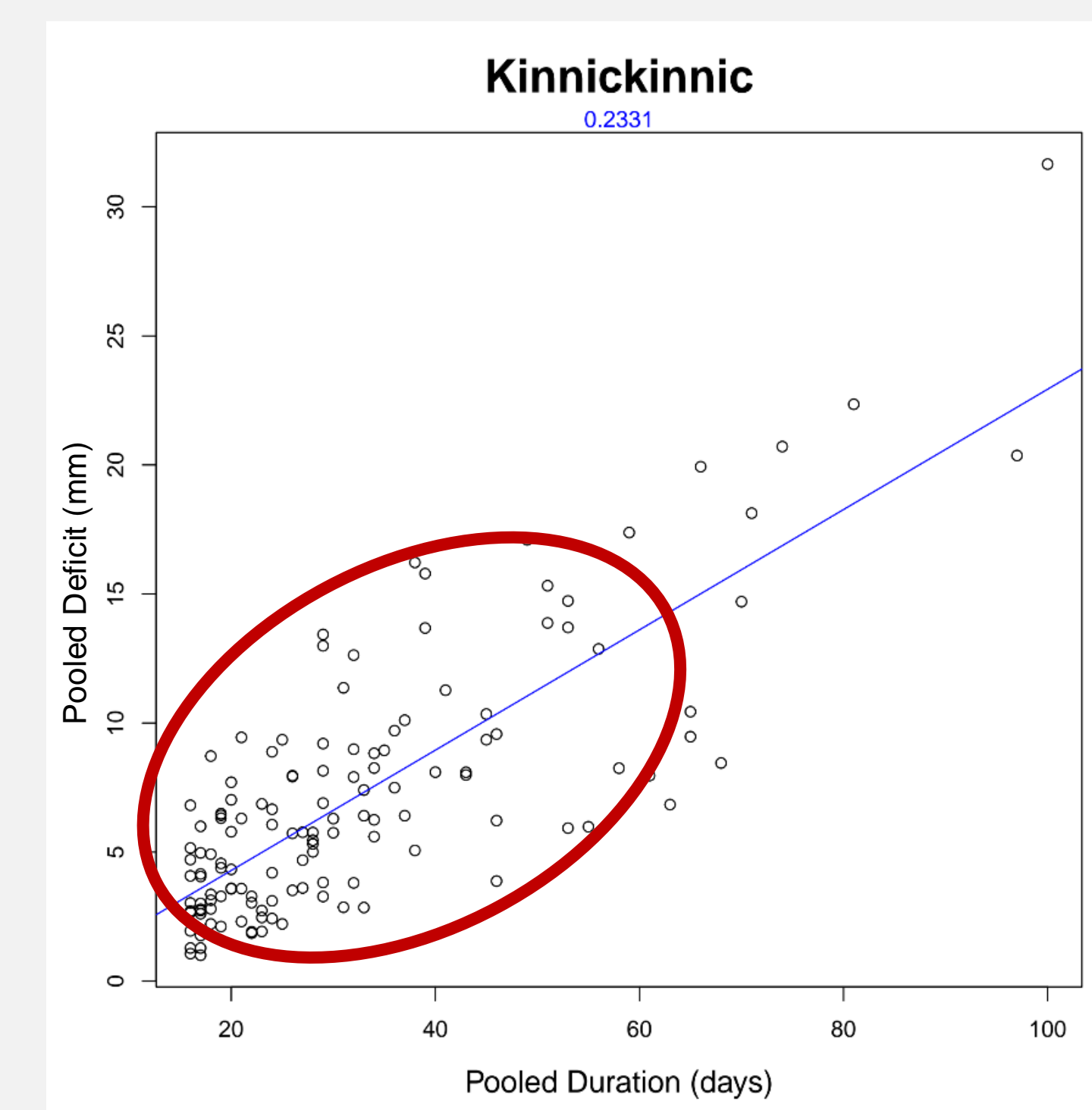
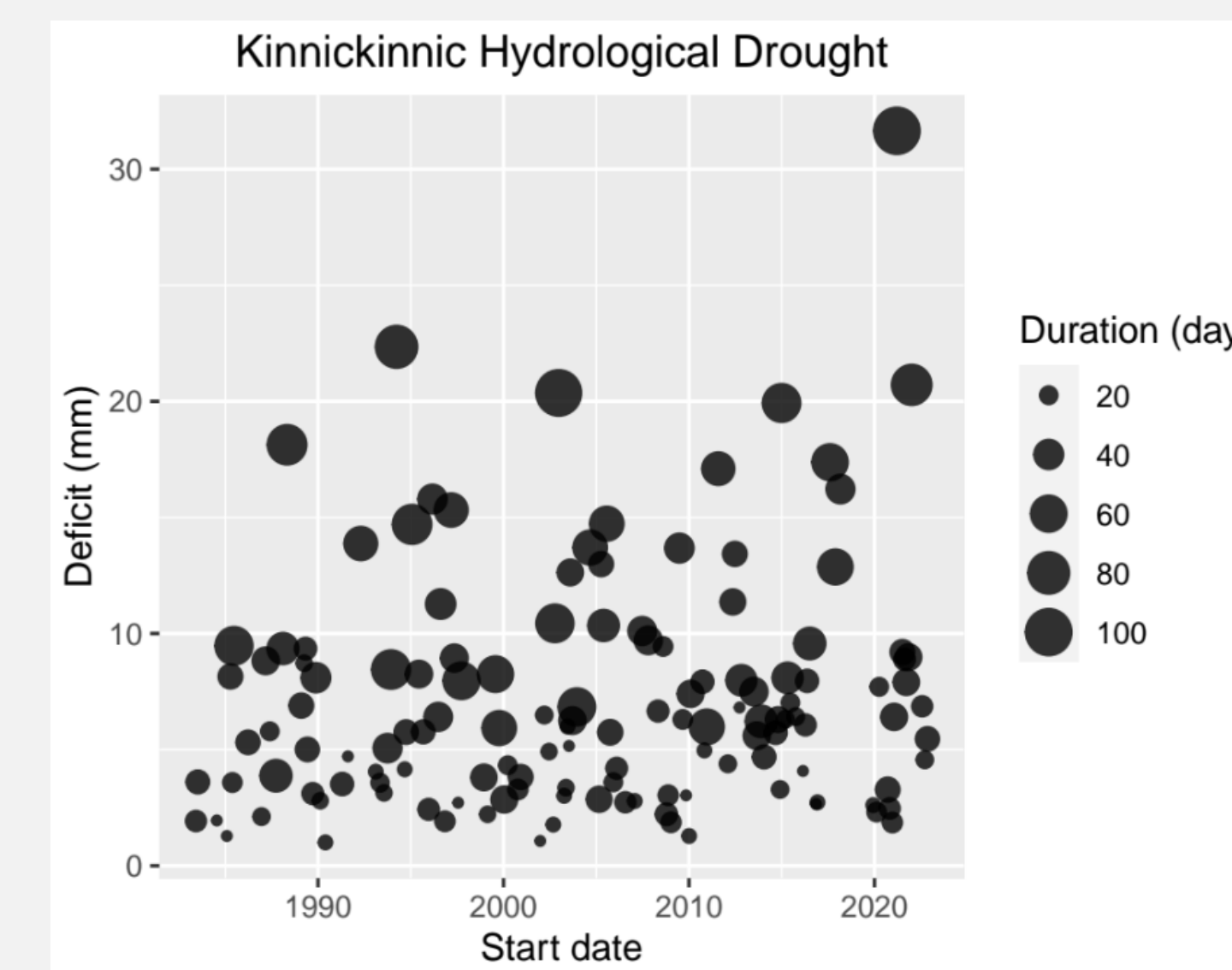


FINDINGS

- Apparent lack of synchrony between drought types
- Hydrological drought deficits and durations more evenly dispersed than meteorological
- 2011-13 hydrological droughts longer duration

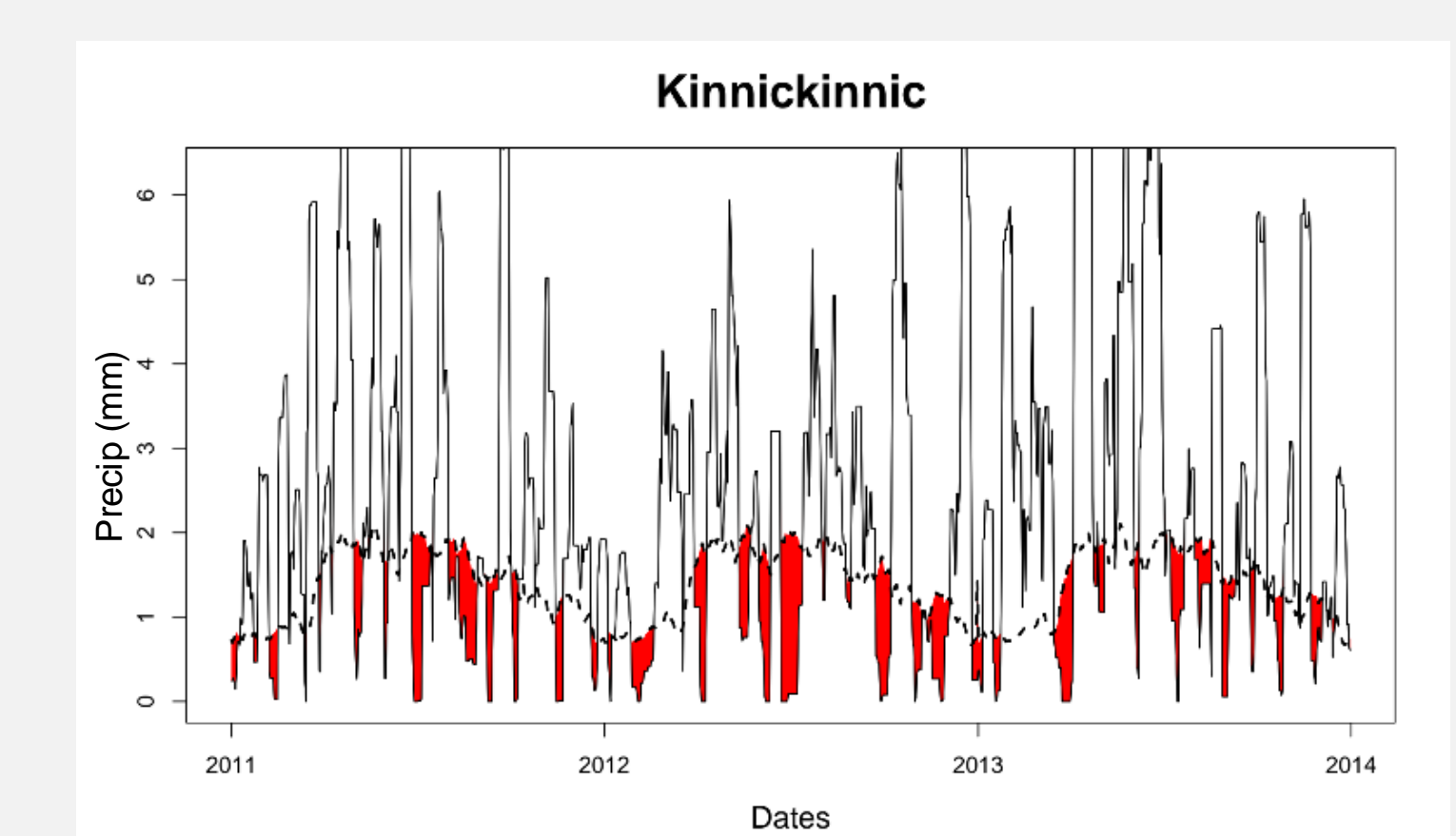
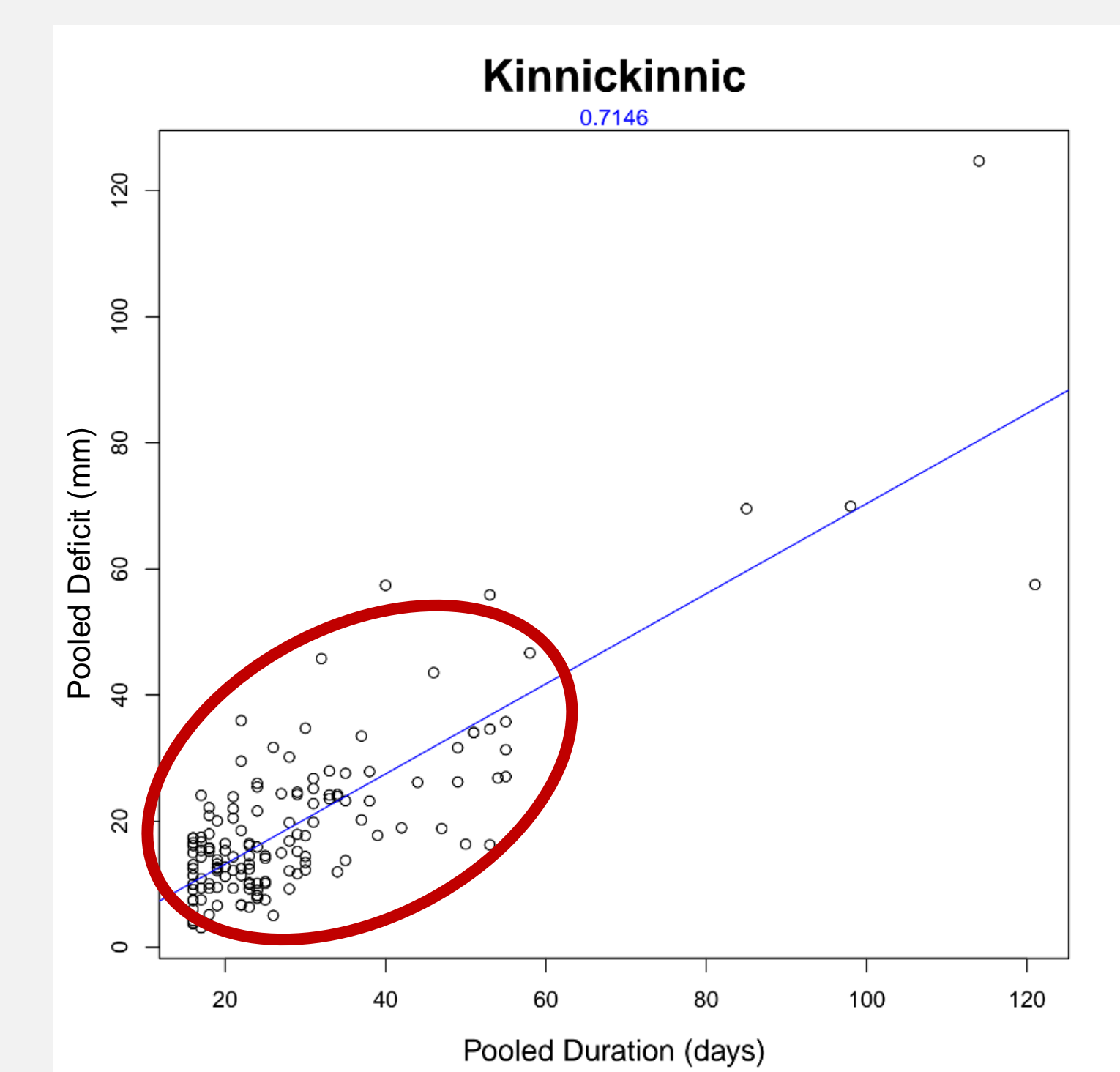
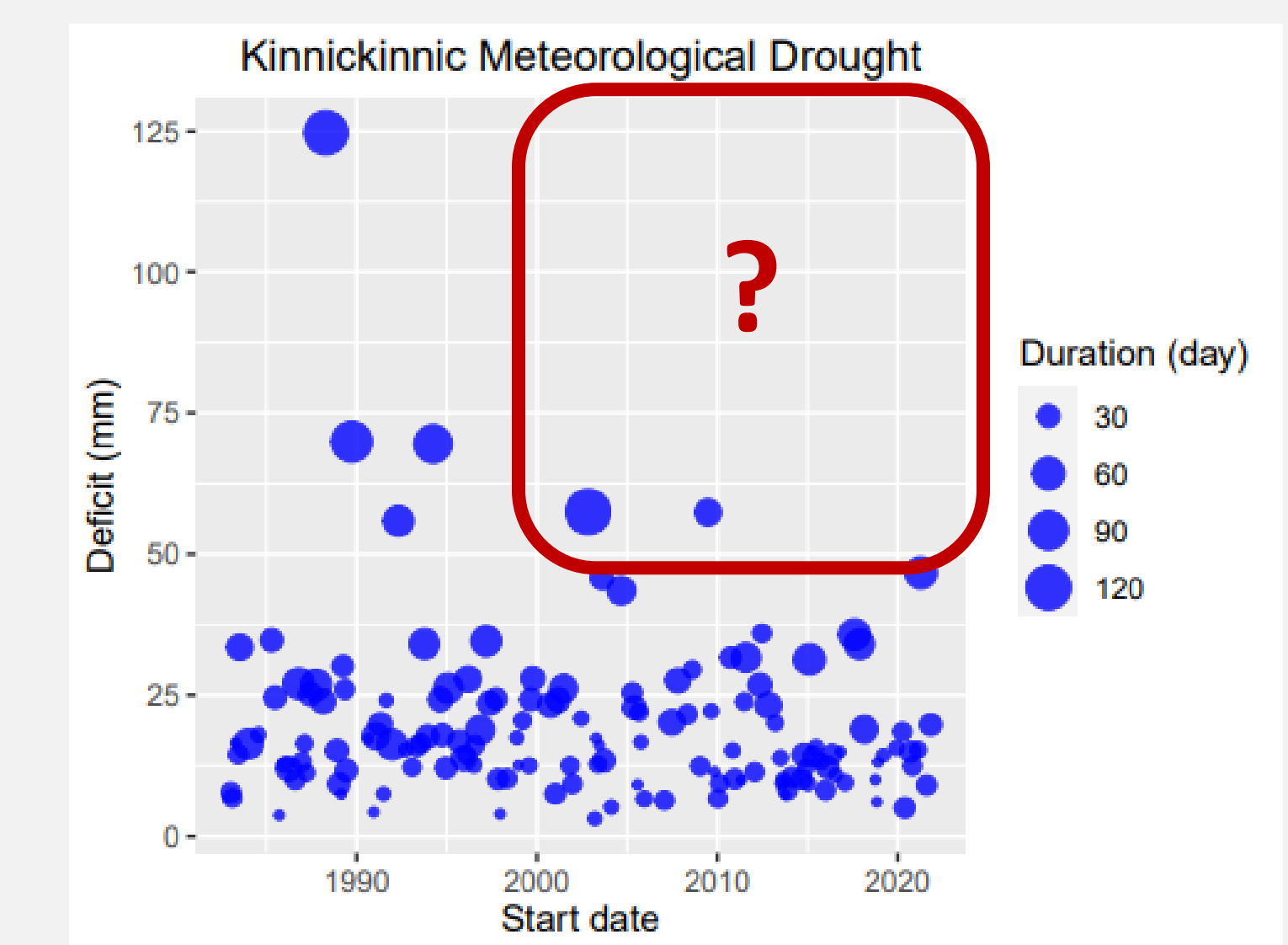
HYDROLOGICAL DROUGHT

Drought analysis charts were created using specialized packages and scripts in R. Droughts were defined using the threshold approach. Short droughts were excluded from the bubble and scatter plots. Drought events were also pooled if the time between them was short.



Average Duration	32.25 days
Average Deficit	7.14 mm
Maximum Duration	100 days
Maximum Deficit	31.65 mm

METEOROLOGICAL DROUGHT



Average Duration	28.96 days
Average Deficit	19.60 mm
Maximum Duration	121 days
Maximum Deficit	124.69 mm